

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FE241498	FOR FURTHER ACTION		See item 4 below
International application No. PCT/KR2004/001878	International filing date (<i>day/month/year</i>) 26 July 2004 (26.07.2004)	Priority date (<i>day/month/year</i>) 25 July 2003 (25.07.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant UTSTARCOM KOREA LIMITED			

- This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
- This REPORT consists of a total of 4 sheets, including this cover sheet.
In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

- This report contains indications relating to the following items:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII | Certain observations on the international application |

- The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).

Date of issuance of this report
30 January 2006 (30.01.2006)

Authorized officer

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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

YOON, Jee Hong

Hannuri Bldg. 219 Naeja-dong, Chongno-gu, Seoul 110-053,
Republic of Korea

Date of mailing
(day/month/year) 24 SEPTEMBER 2004 (24.09.2004)

Applicant's or agent's file reference
FE241498

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/001878

International filing date (day/month/year)

26 JULY 2004 (26.07.2004)

Priority date(day/month/year)

25 JULY 2003 (25.07.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 H03B 28/00

Applicant

UTStarcom Korea Limited et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Authorized officer

PARK, Sung Ho



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2004/001878

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001878

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 4	YES
	Claims	none	NO
Inventive step (IS)	Claims	1 - 4	YES
	Claims	none	NO
Industrial applicability (IA)	Claims	1 - 4	YES
	Claims	none	NO

2. Citations and explanations :

1) Inventive Step

The following documents were referred to in the International Search Report(ISR):

D1 : JP 10-031529 A (Feb. 03, 1998) D2 : JP 6-252645 A (Sep. 09, 1994)

D3 : US 5,898,325 A (April 27, 1999)

The present invention relates to an apparatus for generating clock pulses using a Direct Digital Synthesizer(DDS).

D1 discloses a spectrum spreading method of a clock generating circuit and a spectrum spread clock generating device.

D2 discloses a direct digital synthesizer (DDS) comprising: a phase accumulator for generating phase data; periodic signal converters; a phase error signal generating means for generating a phase error signal; a multiplier; and a subtractor.

D3 discloses a dual tunable direct digital synthesizer with a frequency programmable clock and method of tuning.

The subject-matter of Claims 1-4 of the present invention comprises many technical features, but none of the above-mentioned documents D1, D2 or D3 suggest the technical features related to Claims 1-4 of the present invention. In the prior arts of D1, D2 or D3, even if there seem to be partially similar technical features to the present invention, they are different from the technical features of the present invention as a whole. Therefore, the characterizing features of Claims 1-4 of the present invention are considered to involve an inventive step under PCT Article 33(3).

2) Novelty and Industrial Applicability

Claims 1-4 of the present invention are considered to be novel and to be industrially applicable under PCT Article 33(2) and 33(4).